REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-7 and 9-15 are presently active in this case, Claims 1 and 9 having been amended by way of the present Amendment. No new matter has been entered.

In the outstanding Official Action, Claim 9 was rejected under 35 U.S.C. §102(b) as being anticipated by Taniguchi et al. (U.S. Patent No. 5,266,119)[1]. For the reasons discussed below, the Applicant traverses the anticipation rejection.

A claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. As will be demonstrated below, the Taniguchi et al. reference clearly does not meet each and every limitation of independent Claim 9.

Claim 9 recites a vacuum processing apparatus comprising, among other features, a vacuum chamber accommodating therein a substrate to be processed, a first structure, a second structure vertically movable so as to vary a distance between the first structure and the second structure, a driving mechanism for vertically moving the second structure, a bellows unit having an upper bellows portion, a lower bellows portion, and a ring member connected to the driving mechanism and disposed between the upper bellows portion and the lower bellows portion. The vacuum processing apparatus also comprising a structure supporting member for supporting the second structure and connecting the ring member to the second

[1] The Applicant notes that pages 2, 3, 6, and 8 of the Office Action incorrectly lists the patent number for the Taniguchi et al. reference as U.S. Patent No. 5,266,199, while the Form PTO-892 correctly lists the patent number for the Taniguchi et al. reference as U.S. Patent No. 5,266,119

structure, where the structure supporting member is installed in the vacuum chamber. The Applicant submits that the Taniguchi et al. reference does not disclose all of the above limitations.

By employing the above configuration, the force resulting from a pressure difference between an inside and an outside of the vacuum chamber is not at all exerted on the structure supporting member. For example, by providing a configuration in which the second structure is installed in the vacuum chamber and a structure supporting member (for supporting the second structure) is also installed in the vacuum chamber, these components are both subject to the vacuum and no pressure difference is exerted on the structure supporting member. Since no pressure difference is exerted on the structure supporting member, the structure supporting member and the second structure supported thereby can be easily maintained at a desired location. Furthermore, since no pressure difference is exerted on the structure supporting member, the vertical movement of the second structure is facilitated because it does not have to counteract forces caused by such a pressure difference, and therefore it is not necessary to provide a driving mechanism with a huge driving force, and the driving mechanism can have a simple structure. Moreover, even in a configuration in which the diameters of the first structure and the second structure are made to be large, for example, to accommodate a semiconductor wafer with a large diameter, it is possible to easily meet the scaling up of the diameter since a force corresponding to an area of the second structure is not exerted thereto. (See discussion on page 12, line 16, through page 13, line 4, of the application).

The Office Action cites a reactive gas inlet (55) of the Taniguchi et al. reference

asserted for the teaching of the first structure of the present invention, and a stage (50) for the teaching of the second structure. The Office Action cites a carrier shaft (7) for the teaching of the structure supporting member. However, in the present invention, the structure supporting member is **installed in the vacuum chamber**, which provides the numerous advantages discussed in the previous paragraph and in the present application. In contrast, the carrier shaft (7) of the Taniguchi et al. reference is **installed outside of the vacuum chamber**. Such is true of each of the embodiments, as is evident from a review of the drawings. Therefore, the carrier shaft (7) of the Taniguchi et al. reference does not anticipate the structure supporting member installed in a vacuum chamber, as recited in Claim 9.

Furthermore, assuming, solely for the sake of argument, that hollow flange (8c), which is bolted to the carrier shaft (7), is asserted to correspond to the structure supporting member of the present invention, such a feature also does not anticipate the structure supporting member installed in a vacuum chamber, as recited in Claim 9. Even in this case, the hollow flange (8c) is not installed in a vacuum chamber. As is evident from a review of the drawings, one side of the hollow flange (8c) is outside of the chamber and exposed to the atmosphere, and the other side constitutes a wall of the vacuum chamber. Thus, the hollow flange (8c) is a boundary between the vacuum chamber and the outside atmosphere. Therefore, the hollow flange (8c) of the Taniguchi et al. reference is clearly not installed in a vacuum chamber, and thus does not anticipate the structure supporting member installed in a vacuum chamber, as recited in Claim 9.

Thus, the Applicant respectfully submits that the Taniguchi et al. reference does not disclose all of the limitations recited in Claim 9. Accordingly, the Applicant respectfully

requests the withdrawal of the anticipation rejection of Claim 9.

Claims 1-7 and 9-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tomoyoshi et al. (U.S. Pub. No. 2004/0035364) in view of Taniguchi et al. Claims 1, 2, 9, and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Koshimizu (U.S. Patent No. 5,980,687) in view of Taniguchi et al. Claims 3-7 and 11-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Koshimizu in view of Taniguchi et al. and further in view of Kaminishizono et al. (U.S. Patent No. 5,647,912), Nishimoto et al. (U.S. Patent No. 7,147,749), or Tomoyoshi et al. For the reasons discussed below, the Applicant traverses the obviousness rejections.

The basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. The Applicant submits that a *prima facie* case of obviousness has not been established in the present case because the cited references, either when taken singularly or in combination, do not teach or suggest all of the claim limitations.

As noted above, the Taniguchi et al. reference does not disclose, or even suggest, a structure supporting member for supporting a second structure (installed in a vacuum chamber), where the structure supporting member is installed in the vacuum chamber, as recited in independent Claim 9. Similarly, the Taniguchi et al. reference does not disclose, or

even suggest, an electrode supporting member for supporting a second electrode (installed in a vacuum chamber), where the electrode supporting member is installed in the vacuum chamber, as recited in independent Claim 1. Furthermore, the Applicant submits that neither the Tomoyoshi et al. reference, nor the Koshimizu reference, supplements the deficiencies in the teachings of the Taniguchi et al. reference noted above with regard to Claims 1 and 9.

The Office Action acknowledges on page 4 that the Tomoyoshi et al. reference does not disclose the claimed supporting member structure of the present invention. The Tomoyoshi et al. reference describes a first susceptor (110) supported by an upper end of a vertically movable shaft (112), and a second susceptor (116) is vertically movably supported by a vertically movable shaft (120). (See col. 3, lines 45-46, col. 4, lines 17-19, and Figures 1 and 3.) However, in the present invention, the structure supporting member and electrode supporting member are **installed in the vacuum chamber**, which provides numerous advantages discussed previously. In contrast, the shafts (112 and 120) of the Tomoyoshi et al. reference are **installed outside of the vacuum chamber**. Such is true of each of the embodiments, as is evident from a review of the drawings.

Therefore, the Tomoyoshi et al. reference and the Taniguchi et al. reference, either when taken singularly or in combination, fail to disclose or suggest all of the limitations recited in independent Claims 1 and 9 of the present application. Accordingly, the Applicant respectfully requests the withdrawal of the obviousness rejection of Claims 1 and 9 based on the combination of the Tomoyoshi et al. reference and the Taniguchi et al. reference.

The Office Action acknowledges on page 7 that the Koshimizu reference does not disclose the claimed supporting member structure of the present invention. The Koshimizu

reference describes a plasma processing apparatus including a chamber (11), a lower electrode (12) that is movable up and down, and an upper electrode (13). In the present invention, the structure supporting member and electrode supporting member are **installed in the vacuum chamber**, which provides numerous advantages discussed previously. In contrast, the supporting member for lower electrode (12) of the Koshimizu reference are **installed outside of the vacuum chamber**, as is evident from a review of Figures 1 and 6, and paragraphs [0005] and [0034].

Therefore, the Koshimizu reference and the Taniguchi et al. reference, either when taken singularly or in combination, fail to disclose or suggest all of the limitations recited in independent Claims 1 and 9 of the present application. Accordingly, the Applicant respectfully requests the withdrawal of the obviousness rejection of Claims 1 and 9 based on the combination of the Koshimizu reference and the Taniguchi et al. reference.

The dependent claims are considered allowable for the reasons advanced for the independent claim from which they respectively depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed nor suggested by the applied references when those features are considered within the context of their respective independent claim.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Should the Examiner feel that a personal discussion might be helpful in advancing the application to allowance, then the Examiner is invited to telephone the undersigned representatives.

Respectfully Submitted,

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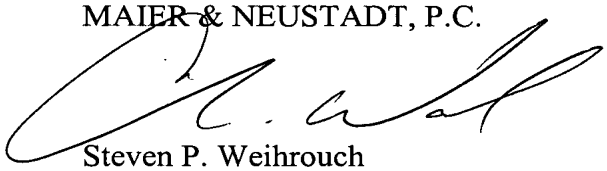

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